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Status of the tinnitus management program in India-A Survey

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Abstract

Objective: The aim of the study is to figure out the status of tinnitus management program (TMP) being conducted in India, to estimate the use of different tinnitus management program, to study the role of various professionals involved and document the current practices of audiologist in country. **Design:** A questionnaire on "tinnitus management survey" was developed and distributed to 150 institutions all over India. **Results and conclusion:** The return rate of the Questionnaire was 32.6%, 7 were received from Medical Colleges (MCs) and 42 from speech and hearing clinics (SHCs). Hence, the rates of TMP have not taken up appropriately in the various hospitals and clinics as yet. 71.4% SHCs have the provision of TMP, 74.28% of the institutes have less than 50% of the patients improving with the TMP, involving Audiologists in 62.85% of the institutes. 54.28% of the institutes opted for Tinnitus Masking out of the various tinnitus management programs. Outside funding for TMP was not received by 91.42% of the institutes. 60% of the institutes were provided TMP with hearing aids. 71.42% of the SHCs feel TMP is partially helpful to tinnitus sufferers thus funding should be undertaken by the Government for ensuring effectual program all over India.

Keywords: quality of life, tinnitus, tinnitus survey.

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INTRODUCTION

Tinnitus is defined as a sensation of sound perceived by an individual in the absence of an external sound source [4,5,6]. Epidemiologic studies have consistently reported that tinnitus prevalence in adults range from about 10 to 15 percent of the population worldwide [2,9,12]. Vernon and Sanders [13] estimate that up to 40 million people in America have tinnitus "to a minor degree", and among these 5 to 13 million have "severe, quality-of-life- disruptive" tinnitus. Because of an ageing population and an increasingly noisy society, the prevalence of tinnitus is expected to increase [3,14]. Therefore, more individuals will seek tinnitus management services, especially as these treatments are determined to be effective and known to the broader public. Zenner and Pfister [15] reported a systematic classification of tinnitus based on the conventional division into objective and subjective tinnitus. Subjective tinnitus can be distinguished into three groups:(1) conductive tinnitus; (2) sensorineural tinnitus (a) motor tinnitus (b) transduction tinnitus (c) transformation tinnitus (d) extrasensory tinnitus; and (3) central tinnitus.

There are several tinnitus management programs done by audiologist to reduce the subjective tinnitus and its impact. There are four psychosocial consequences of devastating tinnitus namely employment status, somatic diseases, psychic disturbances and psychosomatic disturbances. These consequences create a vicious feedback loop by reinforcing the distress caused by tinnitus to these persons [11].Tinnitus is associated with a range of physical and emotional disorders [5]. Hence, it has multiple effects on human life including the psychosocial aspect and the quality of life [4]. In Indian population, Makar, Jalvi and Sinha [10] studied Audiological and Psychological correlates of tinnitus, and findings suggested, 60% patients do not have any idea regarding the probable cause of their tinnitus. 74% subjects of this study reported there is no fluctuation in the pitch of their tinnitus. However, 68% reported that there is loudness fluctuation. There was a significant correlation between the impact of tinnitus and disturbance of sleep caused with increase in depression and anger (0.483). However, no significant correlation was seen between distress caused by tinnitus and the duration of tinnitus (-0.34).

The multiple nature/sound of tinnitus have far more serious impact on tinnitus sufferers than the single sound/ nature. Gender differences were also found; Female subjects reported a higher level of emotional reaction with a mean of 35.9 to their tinnitus as compared to males with a mean of 31.7. Management of tinnitus includes medical, surgical, hearing aids, tinnitus masking, Tinnitus Retraining Therapy, Cognitive Behavior Therapy, electrical stimulation and Complementary and Alternative Treatment methods. However not a single tinnitus treatment approach can claim unequivocal research evidence demonstrating consistent success for all cases [7]. According to Henry et al., [8] Patients with shorter-duration tinnitus are treated differently in comparison to patients with longer-duration tinnitus. Those with shorter-duration tinnitus are treated differently in a way that they are: (a) told that their tinnitus may spontaneously resolve on its own, and that they should do everything to protect their ears to optimize the potential for spontaneous resolution; (b) treated more conservatively, i.e., we counsel them to protect their ears and do not normally start them on some intensive, expensive treatment methodology; (c) followed carefully (monitored) to make sure their tinnitus problem doesn't increase; if it does, then further intervention might be needed. According to Ariizumi, Hatanaka and Kitamura [1] patients with shorter duration of tinnitus show better prognosis in Tinnitus Retraining Therapy (TRT) with Sound Generator (SG). However as far as India is concerned very limited database is available in the area. Though the problem of tinnitus in India is also as alarming/as severe as in western countries; but there is dearth of studies in India related to tinnitus and its associated impact on the individuals. In this background the objective of the study was to find out the procedure followed for tinnitus management with reference to the types of tinnitus management program adopted, tools used, professionals involved in India. The objectives of the study are to: a) Understand the status of tinnitus management program being conducted in India, b) Study the role of various professionals and referral sources in tinnitus management program, c) Document the current practices of audiologist who provider service towards tinnitus management program, d) Estimate the use of different tinnitus management procedure.

METHOD

Participants

A total of 150 institutions (75 medical colleges and 75 speech and hearing centre) distributed all over India were considered for the study including data collected from the ISHA Conference, January, 2011, Secunderabad and Phonocon, January 2012, Guwahati. The medical colleges considered for participation were selected from the directory of colleges being governed by the Medical Council of India and the Speech and Hearing institutes were considered from the directory of Rehabilitation Council of India.

Tools

A questionnaire "tinnitus management survey" was designed and given to 30 Audiologists who had 10 years of experience in the field of tinnitus management. The questionnaire was rated based on 3 point Likert

scale (0-not relevant, 1-relevant, 2-very much relevant). Only items which was rated 2 were considered for the final questionnaire. The final questionnaire consists of 19 questions intended at gathering information on the various facts about the tinnitus management program being conducted at the institution/clinics. The questionnaire can be grouped under 5 categories: 1. Annual Tinnitus Management status of the hospital/clinic, 2. Details of the tinnitus management program, 3. Methods used for tinnitus management program, 4. Personal for the tinnitus management program, 5. Miscellaneous issues (such as funding, data management system).

Procedure

The questionnaire was simultaneously posted and mailed to the 150 institutions all over India between November 2010 and November 2011, including data collected from the ISHA Conference, January, 2011, Secunderabad and Phonocon, January 2012, Guwahati.

Statistical analysis

Statistical package for social sciences (SPSS) version 10 was used and data was subjected to descriptive statistical measures.

RESULTS

The results of the survey have been grouped under various sections which are discussed below.

Section-I: Number of surveys received; Table 1 provides number of surveys received from different types of institute. Out of the 150 institutions that the survey questionnaire was distributed to, a total of 49 questionnaires were received back representing a 32.6% return rate. Out of the 150, 7 were received from medical colleges (MCs), 42 from speech and hearing private institutions/clinics. The return rate of the survey questionnaire was noticeably poor from the Medical Colleges and none of the Medical Colleges have the provision for the Tinnitus Management Program.

Section-II: frequency of Tinnitus management programs (number of center have facility for tinnitus management, number of patients attended, number of patient received tinnitus management, number of patient improved from tinnitus management program). Out of the 49 institutions, 35 have the provision for tinnitus management facility at their center accounting for 71.4% of the total number of institution those responded to the questionnaire.

It was seen that out of the 71.4% institutes have the provision of Tinnitus Management Program. In about 17.14% of the institutes less than 50 patients enrolled, in 51.42% of the institutes 50 to 100 patients enrolled and in 28.57% of the institutes more than 100 patients enrolled annually. Among these institutes 11.42% of the institutes have less than 10 patients receive Tinnitus Management service, 60% of the institutes have 10 to 50 patients receive Tinnitus Management service and 25.71% of the institutes have more than 50 patients receive Tinnitus Management service annually.

Section-III: Characteristics of tinnitus management programs (personal concerned with screening manual data management systems and program funding).

In various institution the following personnel did the tinnitus management service: Audiologists 62.85%, Doctors 54.28% and others specifically Psychologists accounting for 5.71%. 54.2% of the institutes maintained their records manually, 17.10% maintained their records in a computerized manner and 25.71% of the institutes have no maintenance of the records. Outside funding is not received by 91.42% of the institutes and only 2.85% of the institutes receive funding from the Central Government. There was not a single institute who received funding from state government for the same purpose.

Section-IV: Characteristics of tinnitus management procedure:

There are various types of Tinnitus Management Programs which includes 37.14% of the institutes opting for Tinnitus Retraining Therapy, 54.28% of the institutes opting for Tinnitus Masking, 14.28% of the institutes opting for Progressive Tinnitus Management. 5.71% of the institutes opt for Cognitive Behavior Therapy and 34.28% of the institutes opt for Drug Therapy. However not a single institute are seen opting for Neuromonic tinnitus management and alternative methods. The institutes have various durations of the Tinnitus Management Programs with 2.85% of the institutes running the program for 6 months, 20% of the institutes running the program for a year, 31.42% of the institutes running the program for 2 years and 42.84% of the institutes running the program for more than 2 years. The consent obtained from patients from these institutes range from consent implied as part of routine admission accounting to14.28%, ver-

Table 1. Number of surveys received.

Types of Institution	No. of hospital/clinics questionnaires was distributed to	No. of hospital/clinics questionnaire was received from
Medical colleges	75	7
Speech and hearing private Institutions/clinics	75	42
Total	150	49

Table 2. Frequency of Tinnitus management programs.

Characteristics	Percentage
a) Number of patients enrolled with complain of tinnitus annually	
< 50	17.14
50-100	51.42
> 100	28.57
b) Number of patients received tinnitus management services annually	
< 10	11.42
10-50	60.00
> 50	25.71
c) Number of patients improved with tinnitus management program	
Not at all	0
< 50%	74.28
> 50%	20.00

Table 3.

Characteristics	Number and percentage of sites reporting characteristics	
	Hospital (n = 7)	Speech & Hearing Centre (n = 42)
a) Personnel involved in tinnitus management program		
Audiologist	00	62.85%
Technician	00	2.85%
Doctors	00	54.28%
Others	00	5.71
b) Maintain the record		
Manually	00	54.20%
Computerized	00	17.10%
Not maintained	00	25.71%
c) Outside funding used to support program		
Do not receive outside funding	00	91.42%
Funding from state government	00	00
Funding from central government	00	2.85%
Others	00	00

bal permission obtained in 62.85% of the institutes and 19.99% institutes opting for written permission.

Section-V: Information provided to patient on Tinnitus management program outcomes.

34.28% of the institutes had the hospital staff inform to patient about outcomes (improvement/no improvement) of tinnitus, 51.42% of the institutes had the Audiologists inform to patients, in 22.85% of the institutes the patients are informed verbally before discharge from tinnitus management program and in 2.85% of the institutes the patients are informed through written material before discharge from tinnitus management program. In 60% of the institutes patients with hearing loss associated with tinnitus are provided Tinnitus management with hearing aid, 28.57% of the institutes provide hearing aids only and not single institutes provide only Tinnitus management. Comment about Tinnitus Management Program shows 25.71% of the institutes feel it is helpful to tinnitus sufferers, 71.42% of the institutes feel it is partially helpful to tinnitus sufferers and 0% of the institutes feel it is not at all helpful to tinnitus sufferers.

DISCUSSION

Although the response from the Medical Colleges and Institutions is not adequate, but based on the results of the survey some representative conclusion can be drawn about the status and procedure of the Tinnitus Management Program held in India. While fifty-six percentages of the Speech & Hearing set up conduct

Table 4. Characteristics of tinnitus management procedure.

Characteristics of tinnitus management procedures	Number and percentage of sites reporting characteristics	
	Hospitals (n = 7)	Speech & Hearing Centre (n = 42)
a) Type of tinnitus management program are used		
Tinnitus Retraining Therapy	00	37.14%
Tinnitus Masking	00	54.28%
Progressive Tinnitus Management	00	14.28%
Neuromonic Tinnitus Management	00	00
Cognitive Behaviour Therapy	00	5.71%
Drug Therapy	00	34.28%
Alternative methods like	00	00
i) Acupuncture		
ii) Hypnosis		
b) Duration of Tinnitus Management Program started		
6months	00	2.85%
1 year	00	20.%
2 years	00	31.42%
More than 2 years	00	42.85%
c) Consent obtained from patients		
Consent is implied as part of routine admission	00	14.28%
Verbal permission is obtained	00	62.85%
Written permission is obtained	00	19.99%

Table 5. Information provided to patient on Tinnitus Management Program outcomes.

a) Informed about outcomes (improvement/no improvement) of tinnitus	
Hospital staff inform to patient	34.28%
Audiologist inform to patient	51.42%
Patients are informed verbally before discharge from tinnitus management program	22.85%
Patients are informed through written material before discharge from tinnitus management program	2.85%
b) Patient manage with hearing loss associated with tinnitus	
Provided tinnitus management with hearing aid	60.00%
Provided only tinnitus management	00
Only hearing aid provided	28.57%
c) Comment about tinnitus management program	
It is helpful to tinnitus sufferers	25.71%
It is partial helpful to tinnitus sufferers	71.42%
It is not atall helpful to tinnitus sufferers	00

tinnitus management program, none of the Medical Colleges has the provision for the tinnitus management program. Hence, it can be concluded that the rates of Tinnitus Management Program has not been taken up appropriately in various hospitals and institutions in India as of yet. Successful tinnitus management program depends on the data management system that include specific field of information i.e. number of candidates enrolled, number of candidates receive tinnitus management service, and number of candidates improve, that to be reported on annual report on government Agency, department of Health report. A systematic means of reporting will help to find out the number of cases cured from Tinnitus Management Program and efficacy of the program. Funding of tinnitus management program should be undertaken by the Government and various organizations for ensuring smooth and effectiveness of such programs all over India. Finally, it is important to

Appendix A. Tinnitus Management Survey.

Tinnitus management has been in use for many years by some Institutes/centres in India. It is important to determine the degree to which tinnitus management is being implemented throughout India and how much it is helpful for the patients. The questionnaire will be rated based on the 3-point Likert scale (0 - Not relevant, 1 - Relevant, 2 - Very relevant). Only items which are rated 2 will be considered for the final questionnaire. The questionnaire consists of 20 questions intended to gather information on the various facts about the tinnitus management program.

The questions can be grouped under 5 categories.

A) Annual Tinnitus Management status of the hospital/clinic.

B) Details of the tinnitus management program.

C) Methods used for tinnitus management program.

D) Personnel for the tinnitus management program.

E) Miscellaneous issues (such as funding, data management system).

It would be very helpful if you rated/responded to the following questions in the table.

The table is attached to the last page.

Demographic information

1. Organization: Hospital/Clinic/Institute Contact person _____
Name of organization and address _____ Phone number _____
Email address _____

2. Does your hospital have tinnitus management program?
Yes ( ) No ( ) (If no, then fill the questionnaire no 19 only)

3. Which types of tinnitus management program are used?
Tinnitus Retraining Therapy ( ) Tinnitus Masking ( ) Progressive tinnitus management ( ) Neuromonic tinnitus management ( )
Cognitive behaviour therapy ( ) Drug therapy ( ) Alternative methods like Acupuncture ( ) Hypnosis ( )

4. When did the tinnitus management program start?
6 months ago ( ) 1 year ago ( ) 2 years ago ( ) More than 2 years ago ( )

5. Does your hospital/center have an audiologist (bachelor/master degree/Ph.D)? Yes ( ) No ( )

6. Does your hospital/center have an Otolaryngologist? Yes ( ) No ( )

7. Does your hospital/center have a Neurologist? Yes ( ) No ( )

8. Which of the following staff is/are involved in the tinnitus management program in your organization?
Audiologist ( ) Technician ( ) Doctors ( ) Other please specify ( )

9. Is consent for tinnitus management program obtained from patients?
Consent is implied as part of routine admission ( ) Verbal permission is obtained from patients ( ) Written permission is obtained from patients ( )

10. What is the primary referral for the tinnitus management program?
Audiologist referral ( ) Physician referral ( ) Patient request ( )

11. How patients are informed about outcomes (improvement/no improvement) of the tinnitus management?
Hospital staff inform to patient ( ) Audiologist informs to patient ( ) Patient are informed verbally before discharge from the tinnitus management program ( ) Patients are informed through written material before discharge from the tinnitus management program ( )

12. How do you manage patients with hearing loss associated with tinnitus?
Provided Tinnitus management with hearing aid ( ) Provided only Tinnitus management ( ) Only hearing aid provided ( )

13. How many patients in your clinic enrolled with complaints of tinnitus annually?
Less than 50 ( ) Between 50 and 100 ( ) More than 100 ( )

14. How many patients in your clinic have received tinnitus management services annually?
Less than 10 ( ) Between 10 to 50 ( ) More than 50 ( )

15. How many patients improved with the Tinnitus Management Program?
None at all ( ) Less than 50% ( ) More than 50% ( )

16. How do you maintain the records of tinnitus management program?
Manually ( ) Computerized ( ) Do not maintain ( )

17. Please check all of the following that apply to outside funding used to support your program.
We do not receive outside funding ( ) We receive outside funding from state government ( )
We receive outside funding from central government ( ) Other please specify ( )

18. Do you have any comment about the Tinnitus Management Program?
It is helpful to tinnitus sufferers ( ) It is partially helpful to tinnitus sufferers ( ) It is not at all helpful to tinnitus sufferers ( )

19. If your hospital does not currently have a tinnitus management program, are you interested in starting one? Yes ( ) No ( )

acknowledge that the results presented here are limited by the fact that they are based on the report from a few numbers of organizations and may not hold true for all the medical and speech and hearing institutions in India.

CONCLUSION

The tinnitus has a ranging effect that varies from individual to individual. However, if the Tinnitus Management Program is carried out on people with tinnitus, it is seen that there has been a calming effect on the severity of tinnitus and sleep disturbance, anxiety, anger, hypertension, unhappiness etc. that is actually caused due to the tinnitus; thus program will help to improve quality of life of the patients with tinnitus. It is also seen that the people who have an early intake on the management program (TRT with SG) have a faster road to recovery compared to the people who have a later intervention [1]. It has been proven that early intervention is always better as it helps to rule out many factors that may have a long drawn effect later such as memory, positive thinking etc.

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